4

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,481	09/15/2003	Masayoshi Nishitani	0124/0013	9233

21395 7590 03/09/2007

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EXAMINER	
SHIFERAW, ELENI A	
ART UNIT	PAPER NUMBER
2136	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/661,481	NISHITANI ET AL.	
	Examiner	Art Unit	
	Eleni A. Shiferaw	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-11 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/18/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-11 are presented for examination.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet **within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.** The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 3 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. It is not tangibly embodied as it is software per se.

5. Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. **It is not practical application and/or no tangible result.**

6. Claim 11 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. It is not tangibly embodied as it is software per se.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura USPN 6,807,285 B1 in view of Miyahara et al. USPN 6,341,350 B1 and Kadono USPN 6,334,187 B1.

Regarding claims 1 and 2, Iwamura discloses a system for transmitting and receiving encrypted information, comprising an encrypted information recording apparatus, an encrypted information reproducing apparatus, and a transmission line connecting the encrypted information recording apparatus and the encrypted information reproducing apparatus, the encrypted information recording apparatus transmitting a digital information signal to the encrypted information reproducing apparatus via the transmission line, the digital information signal resulting from embedding encrypted information in a digital contents signal, the encrypted information reproducing apparatus receiving the digital information signal and reproducing the encrypted information from the digital information signal;

wherein the encrypted information recording apparatus (fig. 1 element 110) comprises:

first means for dividing the digital contents signal into first data blocks (col. 9 lines 17-21);

second means for calculating a statistical quantity of the digital contents signal for every first data block generated by the first means (col. 8 lines 49-col. 9 lines-54 and fig. 4 element S404);

third means for encrypting information to be embedded into the encrypted information (col. 11 lines 65-col. 12 lines 37);

wherein the encrypted information reproducing apparatus (fig. 1 element 120) comprises:

seventh means for dividing the digital information signal into second data blocks corresponding to the first data blocks generated by the first means (col. 9 lines 17-21);

eighth means for calculating the statistical quantity of the digital information signal for every second data block generated by the seventh means (col. 8 lines 49-col. 9 lines-54 and fig. 4 element S404);

ninth means for deciding the encrypted information in the digital information signal in response to the statistical quantity calculated by the eighth means for every second data block generated by the seventh means to extract the encrypted information from the digital information signal (col. 11 lines 65-col. 12 lines 37); and

tenth means for decrypting the encrypted information extracted by the ninth means into the original information to be embedded (col. 11 lines 65-col. 12 lines 37).

Iwamura fails to disclose fourth means for calculating a corrective quantity from the encrypted information and the statistical quantity calculated by the second means;

However Miyahara et al. discloses calculating a corrective quantity or luminance sum difference (see col. 11 lines 39-56, and fig. 14 element S66)

It would have been obvious to modify the teachings to calculating a corrective quantity from the encrypted information and the statistical quantity within the system of Iwamura because they are analogous in digital watermarking. One would have been motivated to modify the teachings because it would alter the average luminance value in response to the encrypted information.

Iwamura and Miyahara et al. fail to explicitly disclose:

fifth means for changing first random numbers into second random numbers in response to the corrective quantity calculated by the fourth means, and for generating a signal representative of the second random numbers; and

six means for adding the signal representative of the second random numbers to the digital contents signal for every first data block generated by the first means to embed the encrypted information in the digital contents signal and thereby generate the digital information signal.

However Kadono teaches compressing image data in to blocks and embedding secrete information in image data by using pseudo-random number (col. 7 lines 55-60, col. 12 lines 22-col. 13 lines 61, and fig. 24-25) that reads on fifth means for changing first random numbers into second random numbers in response to the corrective quantity calculated by the fourth means, and for generating a signal representative of the second random numbers; and six means for adding the signal representative of the second random numbers to the digital contents signal for every first data block generated by the first means to embed the encrypted information in the digital contents signal and thereby generate the digital information signal.

It would have been obvious to modify the teachings of random number in watermarking within the combination system because they are analogous in digital watermarking. One would have been motivated to modify the teachings because it would be secured and randomized data embedding.

Regarding claim 3, Iwamura discloses a computer program for embedding encrypted information in a digital contents signal, comprising the steps of:

dividing the digital contents signal into data blocks (col. 9 lines 17-21);

calculating a statistical quantity of the digital contents signal for every data block (col. 8 lines 49-col. 9 lines-54 and fig. 4 element S404);

encrypting information to be embedded into the encrypted information (col. 11 lines 65-col. 12 lines 37);

Iwamura fails to disclose calculating a corrective quantity from the encrypted information and the calculated statistical quantity;

However Miyahara et al. discloses calculating a corrective quantity or luminance sum difference (see col. 11 lines 39-56, and fig. 14 element S66). It would have been obvious to modify the teachings to calculating a corrective quantity from the encrypted information and the statistical quantity within the system of Iwamura because they are analogous in digital watermarking. One would have been motivated to modify the teachings because it would alter the average luminance value in response to the encrypted information.

Iwamura and Miyahara et al. fail to explicitly disclose changing first random numbers into second random numbers in response to the calculated corrective quantity, and generating a

signal representative of the second random numbers; and adding the signal representative of the second random numbers to the digital contents signal for every data block to embed the encrypted information in the digital contents signal.

However Kadono teaches compressing image data in to blocks and embedding secrete information in image data by using pseudo-random number (col. 7 lines 55-60, col. 12 lines 22-col. 13 lines 61, and fig. 24-25) that reads on changing first random numbers into second random numbers in response to the calculated corrective quantity, and generating a signal representative of the second random numbers; and adding the signal representative of the second random numbers to the digital contents signal for every data block to embed the encrypted information in the digital contents signal.

It would have been obvious to modify the teachings of random number in watermarking within the combination system because they are analogous in digital watermarking. One would have been motivated to modify the teachings because it would be secured and randomized data embedding.

Regarding claim 4, Iwamura discloses an apparatus comprising

first means for dividing a digital contents signal into segments (col. 9 lines 17-21);

second means for detecting a condition of the digital contents signal for every segment generated by the first means (col. 8 lines 49-col. 9 lines-54 and fig. 4 element S404);

Iwamura fails to disclose determining a corrective quantity in response to auxiliary information and the condition detected by the second means;

However Miyahara et al. discloses calculating a corrective quantity or luminance sum difference (see col. 11 lines 39-56, and fig. 14 element S66).

It would have been obvious to modify the teachings to calculating a corrective quantity in response to auxiliary information and the condition detected by the second means within the system of Iwamura because they are analogous in digital watermarking. One would have been motivated to modify the teachings because it would alter the average luminance value in response to the encrypted information.

Iwamura and Miyahara et al. fail to explicitly disclose fourth means for changing first random numbers into second random numbers in response to the corrective quantity determined by the third means, and for generating a signal representative of the second random numbers; and fifth means for adding the signal representative of the second ransom numbers to the digital contents signal for every segment generated by the first means to embed the auxiliary information in the digital contents signal.

However Kadono teaches compressing image data in to blocks and embedding secrete information in image data by using pseudo-random number (col. 7 lines 55-60, col. 12 lines 22-col. 13 lines 61, and fig. 24-25) that reads on fourth means for changing first random numbers into second random numbers in response to the corrective quantity determined by the third means, and for generating a signal representative of the second random numbers; and fifth means for adding the signal representative of the second ransom numbers to the digital contents signal for every segment generated by the first means to embed the auxiliary information in the digital contents signal.

It would have been obvious to modify the teachings of random number in watermarking within the combination system because they are analogous in digital watermarking. One would

have been motivated to modify the teachings because it would be secured and randomized data embedding.

Regarding claim 5, Iwamura discloses an apparatus, wherein the condition detected by the second means is an average-luminance-related condition (col. 8 lines 49-col. 9 lines-54 and fig. 4 element S404).

Regarding claim 6, Iwamura discloses an apparatus, further comprising sixth means for encrypting the auxiliary information before the auxiliary information is used by the third means (col. 12 lines 1-37).

9. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura USPN 6,807,285 B1 in view of Miyahara et al. USPN 6,341,350 B1, Kadono USPN 6,334,187 B1 and Xie et al. USPN 6,512,836 B1.

Regarding claim 7, Iwamura discloses an apparatus comprising:

first means for dividing a digital contents signal into segments (col. 9 lines 17-21);

second means for detecting an average luminance value of the digital contents signal for every segment generated by the first means (col. 8 lines 49-col. 9 lines-54 and fig. 4 element S404);

Iwamura fails to means for determining a corrective quantity in response to a bit of

auxiliary information and the average luminance value detected by the second means for every segment generated by the first means, wherein bits of the auxiliary information are assigned to the segments generated by the first means respectively;

However Miyahara et al. discloses calculating a corrective quantity or luminance sum difference and/or a corrective quantity or luminance sum in response to the average luminance value detected by the second means for every segment generated by the first means, wherein bits of the auxiliary information are assigned to the segments generated by the first means respectively (see col. 11 lines 39-56, and fig. 14 element S66). It would have been obvious to modify the teachings to calculating a corrective quantity in response to a bit of auxiliary information and the average luminance value within the system of Iwamura because they are analogous in digital watermarking. One would have been motivated to modify the teachings because it would alter the average luminance value in response to the encrypted information.

Iwamura and Miyahara et al. fail to explicitly disclose fourth means for changing first random numbers into second random numbers in response to the corrective quantity determined by the third means, and for generating a signal representative of the second random numbers; and fifth means for adding the signal representative of the second random numbers to the digital contents signal for every segment generated by the first means to embed the auxiliary information in the digital contents signal and thereby generate a composite digital signal.

However Kadono teaches compressing image data in to blocks and embedding secrete information in image data by using pseudo-random number (col. 7 lines 55-60, col. 12 lines 22-col. 13 lines 61, and fig. 24-25) fourth means for changing first random numbers into second

random numbers in response to the corrective quantity determined by the third means, and for generating a signal representative of the second random numbers; and fifth means for adding the signal representative of the second random numbers to the digital contents signal for every segment generated by the first means to embed the auxiliary information in the digital contents signal and thereby generate a composite digital signal.

It would have been obvious to modify the teachings of random number in watermarking within the combination system because they are analogous in digital watermarking. One would have been motivated to modify the teachings because it would be secured and randomized data embedding.

Iwamura, Miyahara et al. and Kadono fail to explicitly teach wherein an average luminance value of every segment of the composite digital signal is either odd or even depending on a logic state of a corresponding bit of the auxiliary information.

However Xie et al. teaches a method of embedding digital watermarking to compressed video (MPEG video) in using DC coefficients from luminance blocks is odd or even (see col. 2 lines 12-45) that reads on an average luminance value of every segment of the composite digital signal is either odd or even depending on a logic state of a corresponding bit of the auxiliary information.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to include the teachings of Xie et al. within the combination system because they are analogous in data embedding. One would have been motivated to do so because it is well known at the time of the invention.

Regarding claim 8, Iwamura further discloses an apparatus, further comprising sixth means for encrypting the auxiliary information before the auxiliary information is used by the third means (col. 12 lines 1-37).

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura USPN 6,807,285 B1 in view of Xie et al. USPN 6,512,836 B1.

Regarding claim 9, Iwamura discloses an apparatus comprising:

first means for dividing a digital information signal into segments (col. 9 lines 17-21);

second means for detecting an average luminance value of the digital information signal for every segment generated by the first means (col. 8 lines 49-col. 9 lines-54 and fig. 4 element S404);

third means for deciding whether the average luminance value detected (col. 8 lines 49-col. 9 lines-54); and

fourth means for detecting auxiliary information in the digital information signal in response to results of the deciding by the third means (col. 12 lines 1-37, and fig. 1 element 121).

Iwamura fails to explicitly disclose wherein third means for deciding whether the average luminance value detected by the second means is odd or even.

However Xie et al. teaches a method of embedding digital watermarking to compressed video (MPEG video) in using DC coefficients from luminance blocks is odd or even (see col. 2 lines 12-45).

Therefore it would have been obvious to one having ordinary skill in the art at the time of

the invention was made to include the teachings of Xie et al. within the combination system because they are analogous in data embedding. One would have been motivated to do so because it is well known at the time of the invention.

Regarding claim 10, Iwamura further discloses an apparatus, further comprising fifth means for decrypting the auxiliary information detected by the fourth means (col. 11 lines 65-col. 12 lines 37).

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura USPN 6,807,285 B1 in view of Xie et al. USPN 6,512,836 B1.

Regarding claim 11, Iwamura discloses a computer program comprising the step of:

dividing a digital information signal into segments (col. 9 lines 17-21);

detecting an average luminance value of the digital information signal for every segment (col. 8 lines 49-col. 9 lines-54 and fig. 4 element S404);

detecting encrypted information in the digital information signal in response to results of the deciding (col. 12 lines 1-37); and

decrypting the detected encrypted information (col. 11 lines 65-col. 12 lines 1-37).

Iwamura fails to explicitly disclose wherein third means for deciding whether the average luminance value detected by the second means is odd or even.

Iwamura fails to explicitly disclose wherein third means for deciding whether the average luminance value detected by the second means is odd or even.

However Xie et al. teaches a method of embedding digital watermarking to compressed video (MPEG video) in using DC coefficients from luminance blocks is odd or even (see col. 2 lines 12-45).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to include the teachings of Xie et al. within the combination system because they are analogous in data embedding. One would have been motivated to do so because it is well known at the time of the invention.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni A. Shiferaw whose telephone number is 571-272-3867. The examiner can normally be reached on Mon-Fri 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser R. Moazzami can be reached on (571) 272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 2, 2007

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3/6/07